

how he found thread-cells in *Reniera fibulata* and *Desmacella vagabunda*, seeing that many thousands of microscopical examinations of the Spongiadæ have been made by different naturalists up to this time without their observation.

The Renierinæ are especially subject to surface polype parasites, and none more so, perhaps, than *Reniera fibulata*, Sdt., all over the world. (This species is characterized by two forms of spicules, viz. (1) acerate, curved, smooth, large, and (2) C- & S-shaped, minute.) But I have never before found a parasitic polype in the interior of a *Reniera* or any other sponge, and never any thread-cells where there were no parasitic polypes to originate them. Nor should I have been able to detect them now but for the process mentioned.

There is also another jar sent me by Prof. W. Thomson, in which there is a portion of the same sponge with three other small fragments of as many species undescribed; but this is labelled "Adventure Bank, 92 faths."

"Bon Bay" is on the African coast, opposite Cape Spartivento (Sardinia); and "Adventure Bank" is the shoal between Tunis and Sicily.

Prof. Thomson also adds the following interesting information respecting thread-cells, in a note just received:—

"Thread-cells are abundant in every thing which feeds upon Cœlenterates of any kind, young or mature, whether feeding by cilia or by the mouth. I have found the thread-cells of several Hydroids apparently living in the skin of a *Synapta*; and you can always find plenty of them in *Amphidetus*. Of course, if you find a parasitic polype in the sponge, there is no further difficulty; but that does not seem necessary. Thread-cells appear to be able to live, for a time at least, an independent life in foreign quarters."

June 17, 1872.

V.—On my so-called *Globiocephalus Grayi*.

By DR. HERMANN BURMEISTER.

IN the new 'Journal de Zoologie,' the editor, Prof. Paul Gervais, of Paris, has noticed (tome i. p. 68) the descriptions of Cetacea published by myself in the 'Anales del Museo Público de Buenos Aires,' tome i. p. 367 *et seqq.*, and has hinted, with good reason, that the animal described there as *Globiocephalus Grayi* is not a *Globiocephalus*, but a *Pseudorca*, nearly allied to, if not identical with, *Ps. crassidens* of Prof. Reinhardt (Overs. Kongl. Danske Vidensk. Selsk. Forhandl. 1862, p. 103 *et seqq.*), comparing my figures given on pl. 21 of the 'Anales'

with those of the 'Ostéogr. d. Cétacés,' pl. 50, published by himself two years ago.

As the sixth part of my 'Anales,' wherein is to be found the description of *Globiocephalus Grayi*, was published in the year 1869*, I could not compare the excellent figures of the 'Ostéographie' during the elaboration of my treatise, because the part of M. Gervais's work alluded to did not reach Buenos Ayres until Sept. 1870. I had at hand no other scientific works than Cuvier's 'Ossemens Fossiles' and Gray's 'Catalogue of Seals and Whales,' as I have already said in the 'Anales,' p. 369. Even Prof. Reinhardt's extended description was not known to me until after the printing of my 'Anales.' Occupied with the elaboration of the following parts, I could not find time to compare my previous labours with the new publications; and although, in Sept. 1870, I had seen the cited figures of M. Gervais, and recognized my error, I could not at once undertake the careful comparison of them with my own, as I was so much engaged with other labours which it was necessary, for various reasons, to complete. But now the criticism of M. Gervais has obliged me to do what I have hitherto neglected, to compare the cranium of *Globiocephalus Grayi* in our museum with the figures of his work, and to publish the results of this comparison.

From my new examination there can be no doubt that my *Globiocephalus* is a true *Pseudorca*; but I am also convinced that the species from Buenos Ayres is not identical with *Ps. crassidens*, but a new one, more nearly allied to *Ps. meridionalis*, Flower (Proc. Zool. Soc. 1864), than to the species of the European seas. My opinion is founded on the following reasons:—

1. The whole skull is narrower before than that of *Ps. crassidens*, and resembles more in the general figure that of *Ps. meridionalis*, with the exception of the tip of the muzzle, which is somewhat broader in my skull, and more nearly allied in its form to that of *Ps. crassidens*.

2. The right intermaxillary bone is much longer posteriorly than the left, surrounding there the outside of the nasal bone, nearly in the same manner as in Gervais's fig. 1. pl. 50. This character is not well indicated in my fig. 3. pl. 21, because the tip of the right intermaxillary bone of my skull has been broken off, which I had not noticed before I saw the figures in the 'Ostéographie.'

3. The two small faces of the maxillary bones, immediately before the nostrils, are of the same unequal size as in *Ps. meridionalis*, the right being larger and broader than the left. In *Ps. crassidens* both are smaller and of nearly equal size.

* The copies of this part of my 'Anales' were sent from here to London Oct. 25, 1869, and to Paris Nov. 12, 1869, by the post-steamers.

4. The nasal bones are of very different form, without the high knob behind, but each with a deep diagonal furrow, which divides them into two faces.

5. The tip of the united parietal bones, with a prolongation going in between the frontals, is not pointed as in *Ps. crassidens*, but broad and truncate as in *Ps. meridionalis*.

6. Both the upper and the under jaw have the same number of *nine* teeth, of which the first in the upper jaw is much smaller than the others, but the last of equal size with the preceding ones. This character does not agree with the other species; both have one tooth more in the under jaw than in the upper jaw. *Ps. crassidens* has eight teeth above and nine below, and *Ps. meridionalis* nine above and ten below, the first of the upper jaw of this species being also much smaller than the following ones.

This difference seems to me to be of great importance, and alone sufficient to prove the distinctness of my species.

7. The vomer is visible between the upper maxillary bones in my skull, but not visible in *Ps. meridionalis*.

8. At least the form of the teeth is entirely different from that in both the previously known species; neither of them has the teeth so thick, short, and worn as my species from the Patagonian coast.

For all these reasons I believe I am quite justified in separating this animal as a distinct and new species from *Ps. crassidens* and *Ps. meridionalis*, naming it now

Pseudorca Grayi.

As I have given a comparative description of the skull in the 'Anales,' and also added the measurements (p. 373) on the metrical scale, I will not here repeat the same, but add only the principal measurements of the skulls of the three species in English inches, in the same manner as they are given by Gray in his 'Catalogue of Seals and Whales,' pp. 290 & 294.

| | <i>Pseudorca crassidens</i> . | <i>Ps. meridionalis</i> . | | <i>Ps. Grayi</i> . |
|---------------------------------------|-------------------------------|---------------------------|------------------|--------------------|
| | | Adult. | Young. | |
| Entire length | 23-24 | 23 $\frac{1}{4}$ | 20 $\frac{1}{4}$ | 26 |
| Length of nose | 12 $\frac{1}{2}$ | 11 $\frac{1}{4}$ | 9 $\frac{1}{2}$ | 12 |
| Length of teeth-line | 10 | 9 $\frac{1}{4}$ | 8 $\frac{1}{4}$ | 10 |
| Length of lower jaw | 21 | 19 | 16 $\frac{1}{4}$ | 21 |
| Breadth at notch | 8 $\frac{1}{2}$ | 7 $\frac{1}{4}$ | 6 $\frac{1}{4}$ | 9 |
| Breadth at middle of beak | 8 | 5 $\frac{3}{4}$ | 5 $\frac{1}{4}$ | 8 |
| Breadth of intermaxillaries | 5 $\frac{1}{6}$ | 4 $\frac{1}{2}$ | 3 $\frac{3}{4}$ | 5 $\frac{3}{4}$ |

These measurements prove that the cranial part of the skull is relatively somewhat larger in *Ps. Grayi* than in *Ps. crassidens*, and that the whole animal may have been consequently stronger and stouter than the European species, exceeding the Australian one still more in both qualities.

The description and figures of the swimming Delphinide, seen by myself in the Atlantic Ocean and published in my 'Anales,' p. 368, do not belong to the *Pseudorca Grayi*, as I supposed, but to a true *Globiocephalus*, which cannot be determined exactly without further observations.

Buenos Ayres, April 24, 1872.

VI.—On *Emys nigra* from Upper California.

By Dr. J. E. GRAY, F.R.S. &c.

EMYS NIGRA of Hallowell is said to be the same as *Emys marmorata* of Baird and Girard, which Agassiz, in his great work on the Natural History of the United States (of which only the general observations and the tortoises have appeared), refers to the genus *Actinemys*, and figures the young of the species; and on his authority (for I have never been able to see the species) I have arranged it under *Geoclemmys* (see Cat. Shield Reptiles, Suppl. p. 27).

In Hallowell's Report on the Reptiles collected in the Survey for the Railroad from the Mississippi to the Pacific Ocean, 1859 (a work which I had not previously consulted), he describes and figures *Emys nigra*, which he says is very abundant in Posa Creek, northern part of Upper California. The figure represents a very depressed water-*Emys*, with a dark narrow band across the eye, broad webbed feet, with acute elongated claws. The head appears to be covered with a uniform skin, not divided into symmetrical plates. The limbs and tail are marked with large black spots; and the upper part of the head and neck is blackish, with numerous small yellow spots.

The skin of the head and limbs more resembles that of the true Terrapins than any other American species I know; and it would be very interesting to know the form of the jaws. It certainly is a purely aquatic tortoise, and has nothing to do with the more terrestrial tortoises of America forming the genus *Geoclemmys* or *Actinemys*.

Mr. Hallowell's figure is very like a specimen that I obtained at Nantes, and which I described and figured as *Emys olivacea* in the 'Catalogue of Shield Reptiles,' p. 30, t. 12 c, and which is named *Redamia olivacea* in the Supplement to that Catalogue, p. 35.